ABSTRACT OF THE DISCLOSURE

A method for controlling water quality in a nuclear reactor comprises a first and second steps. The first step is to make an amount of iron, which is carried into the nuclear reactor and corrosively eluted from structural material within the nuclear reactor into reactor water, at least twice as much as any one of an amount of nickel, which is carried into the nuclear reactor, and an amount of nickel, which is generated in the nuclear reactor. The second step is to limit an upper limit of concentration value of iron in system water supplied into the nuclear reactor to up to 0.10 ppb.